

Fig. 2

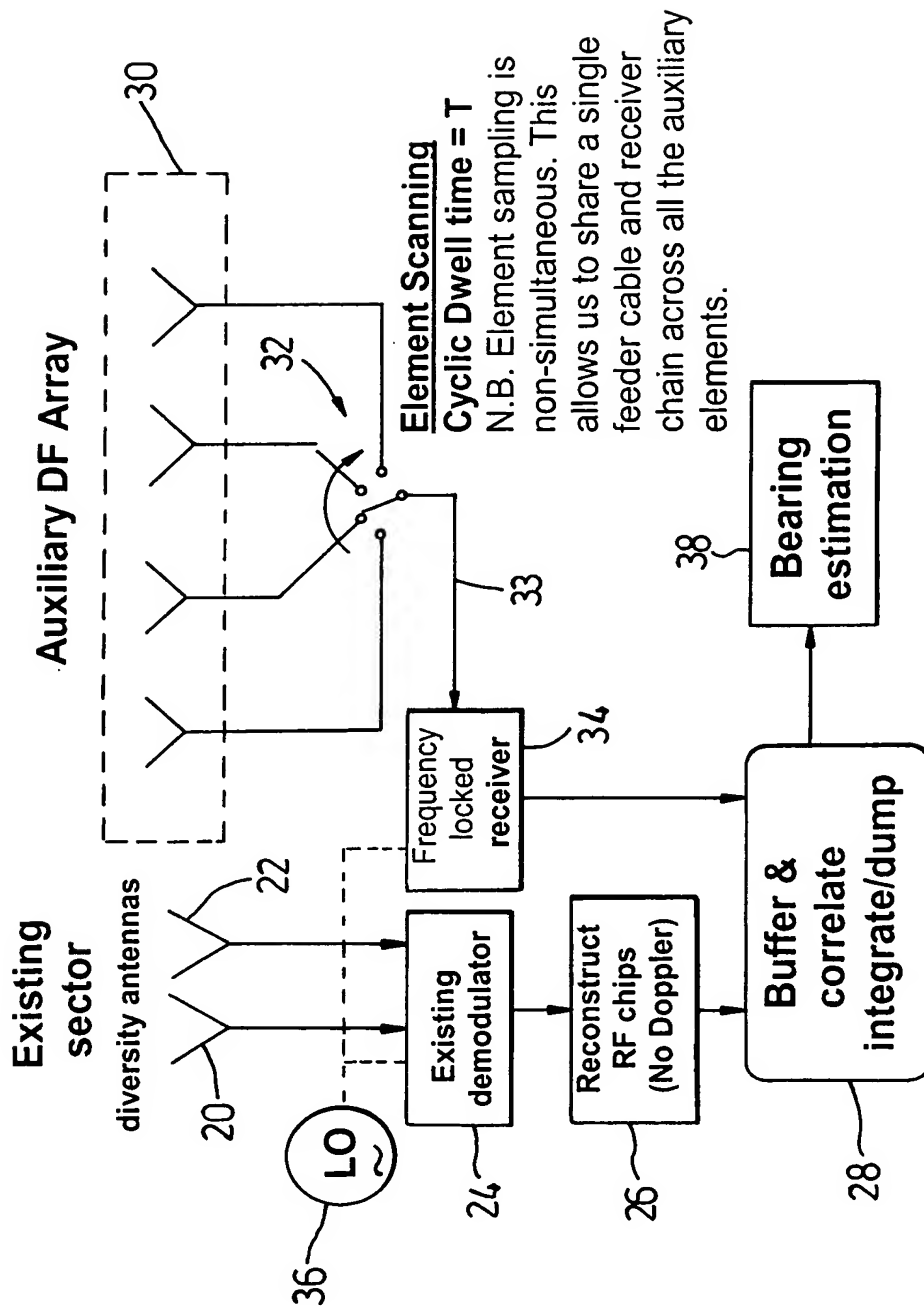
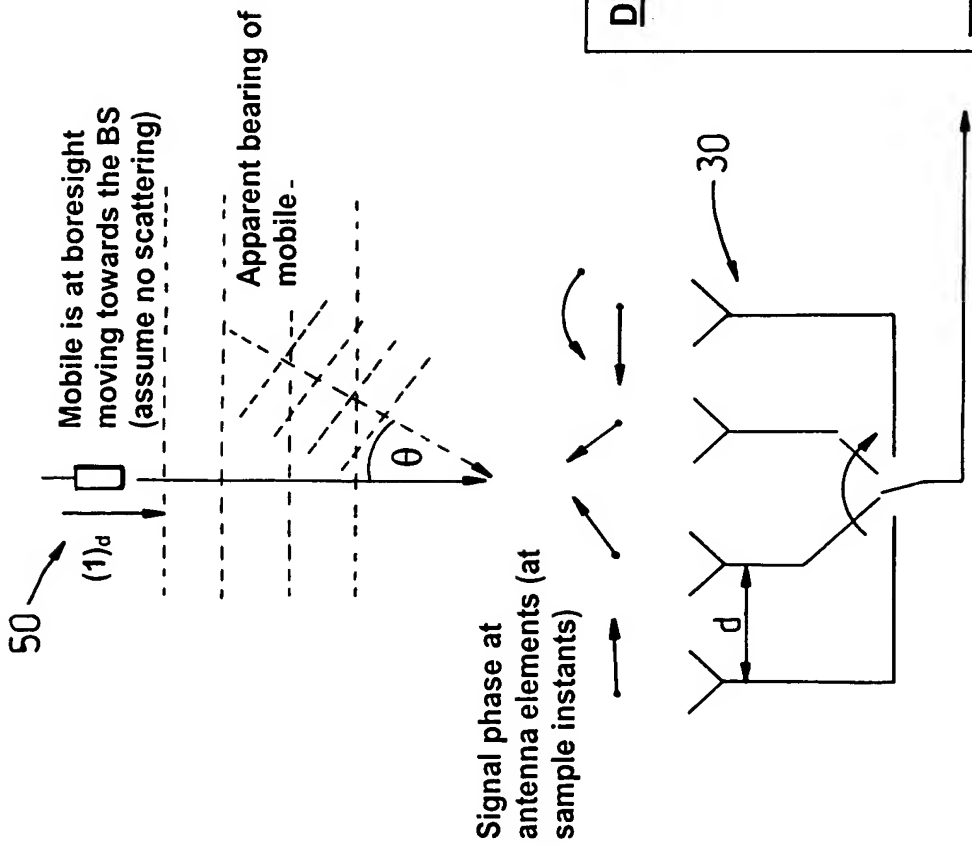


Fig. 3



Element Scanning
 Cyclic Dwell time = T
 N.B. Element sampling is non-simultaneous.
 This allows us to share a single feeder cable and receiver chain across all the auxiliary elements.

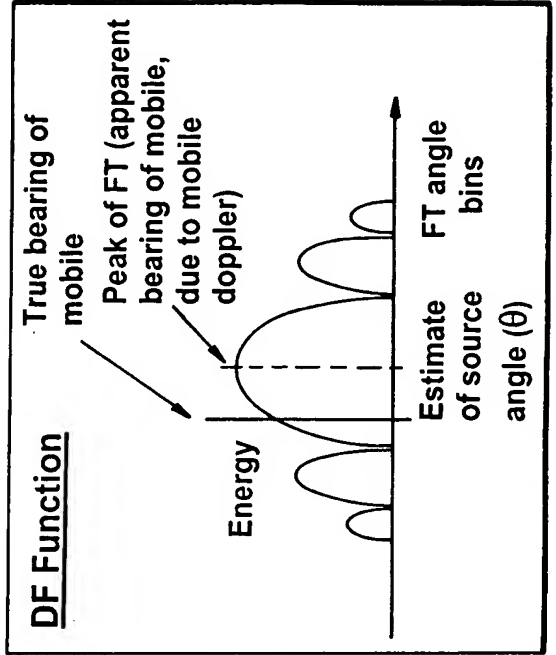


Fig. 4

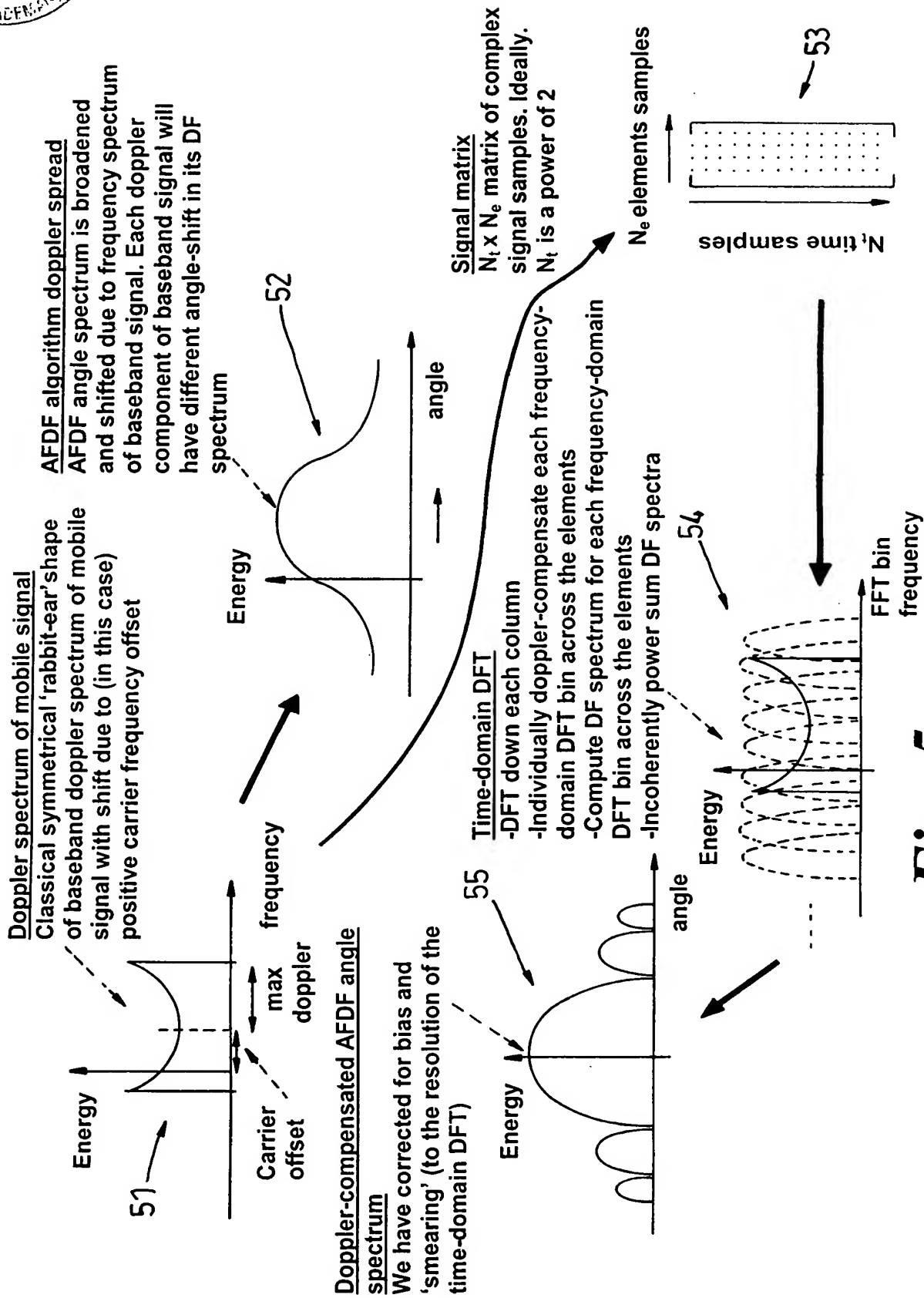
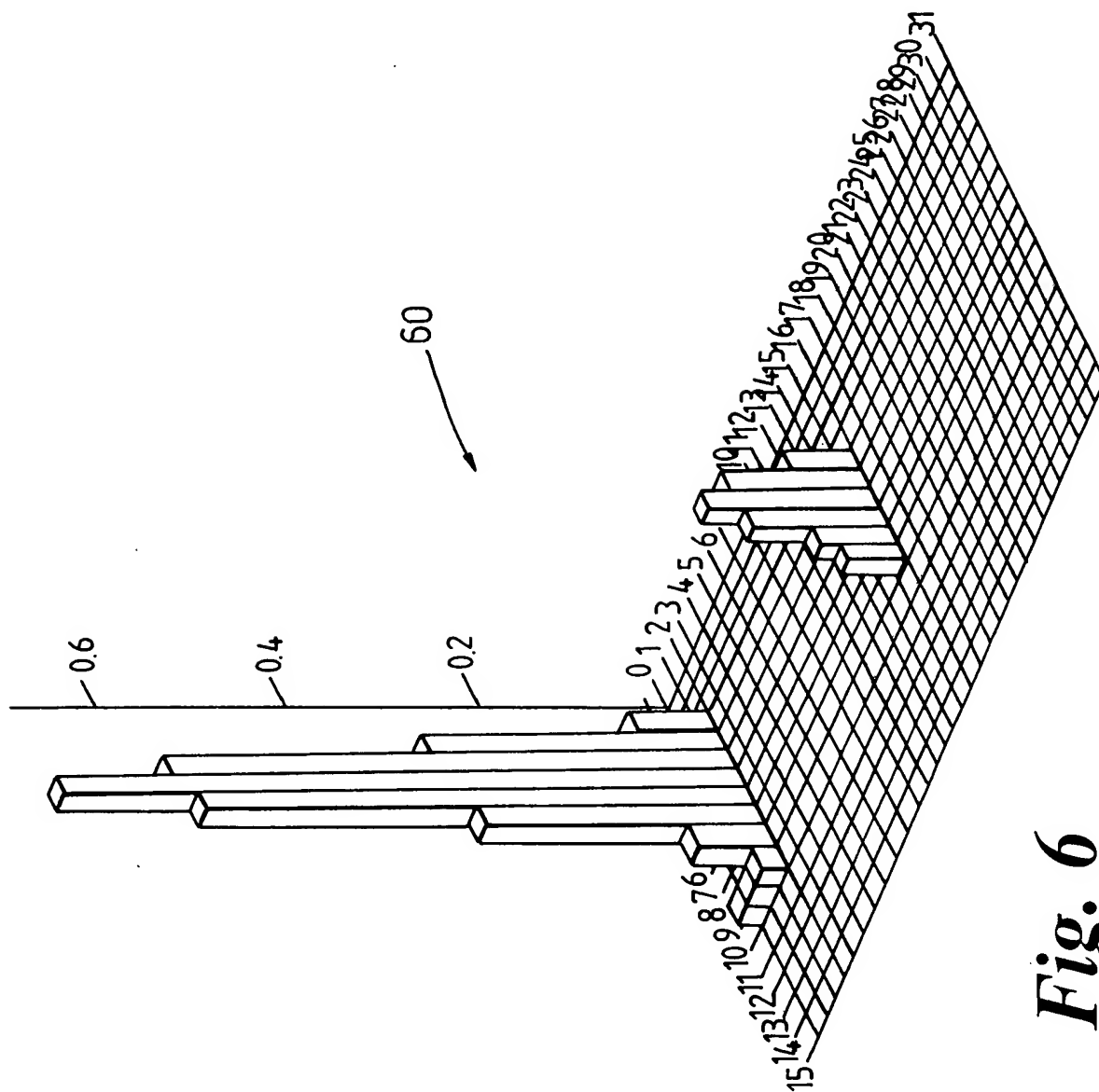
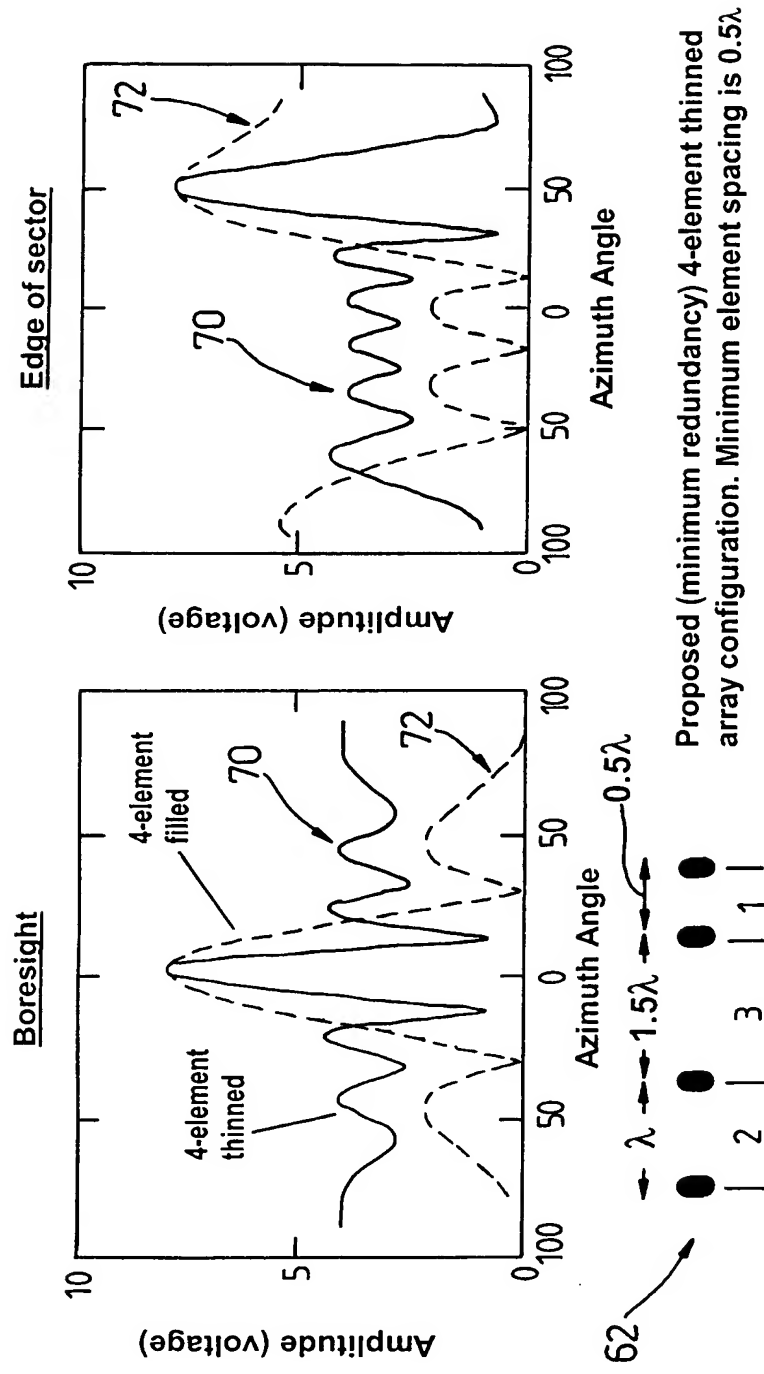


Fig. 5





- The selected thinned array configuration biases elements towards the edge of the available aperture and achieves a -3dB beam width of 11° (N.B. Narrower beamwidth than a 7-element filled array due to the 'end-weighting').
- Peak sidelobes close to the -6dB target level are achieved even when the main beam is scanned towards the edge of the sector.

Fig. 7

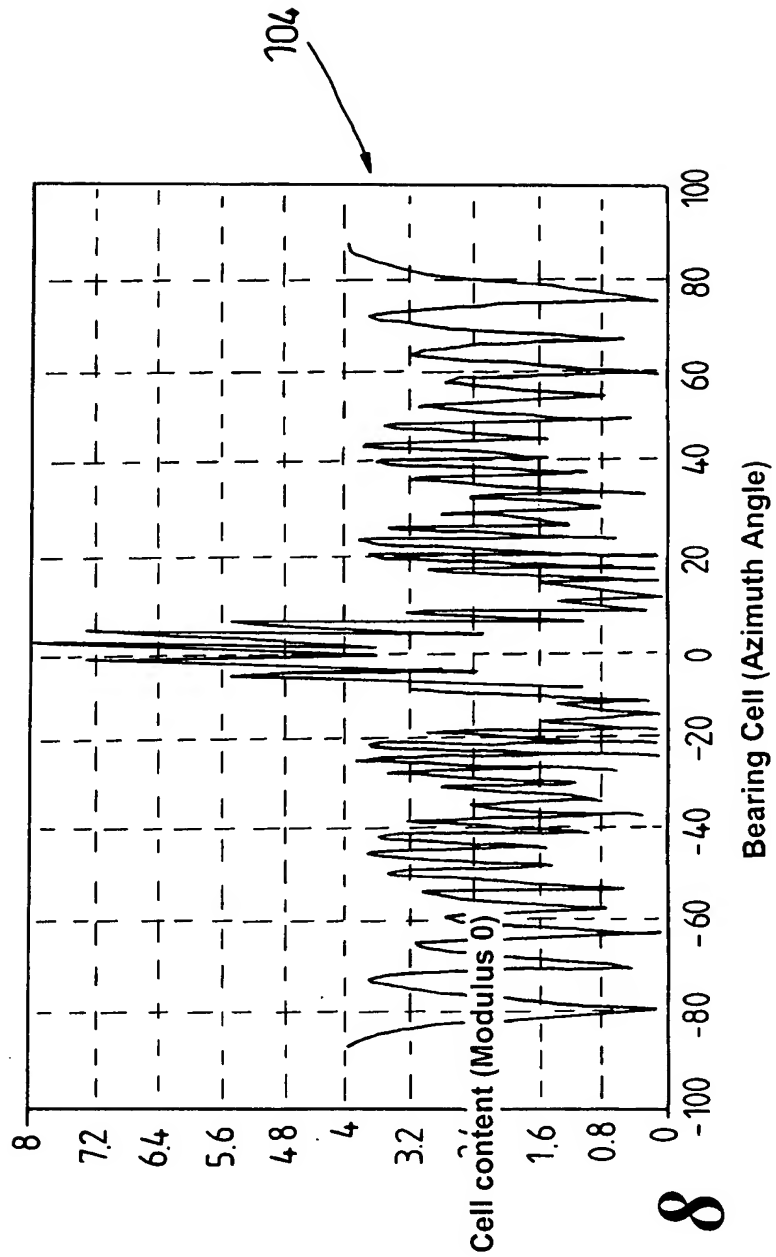
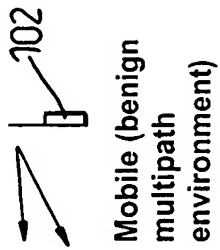
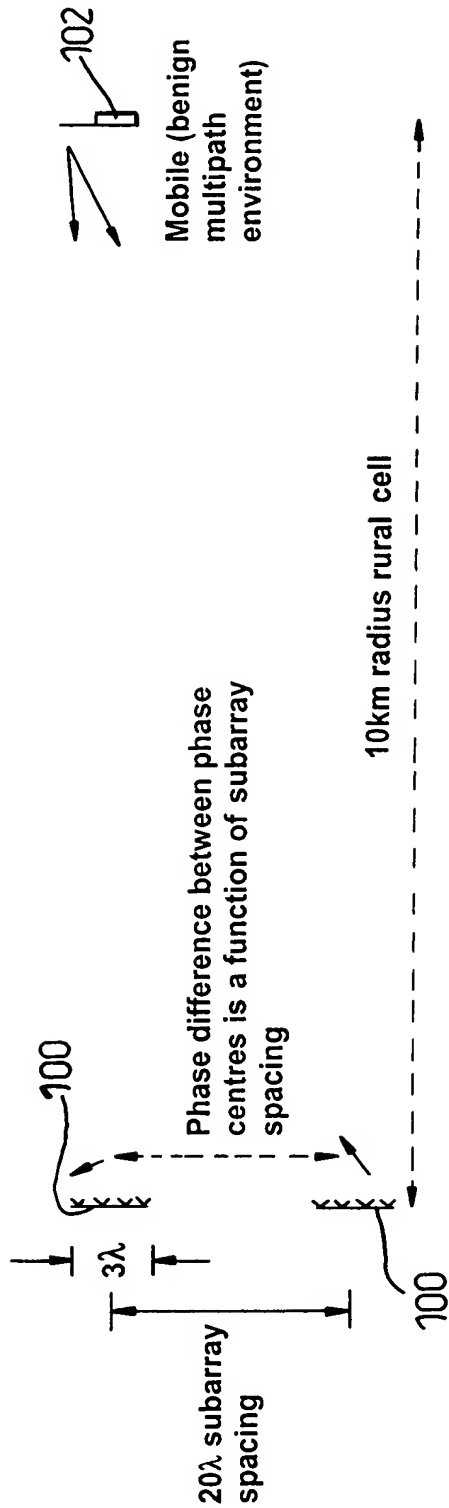
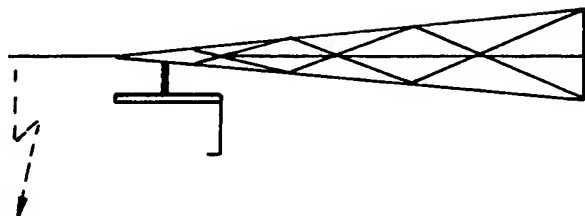
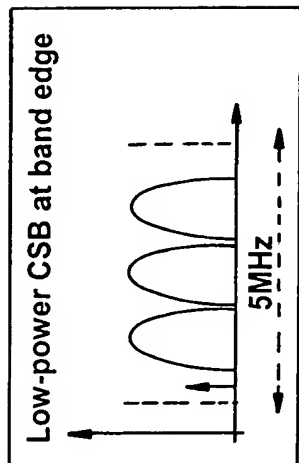


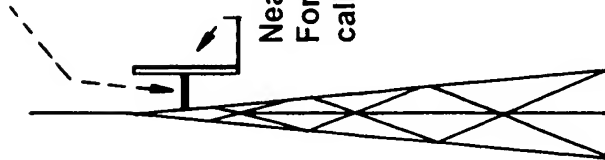
Fig. 8

Cellsite Beacon (CSB)
-12dBm maximum
For alignment calibration only

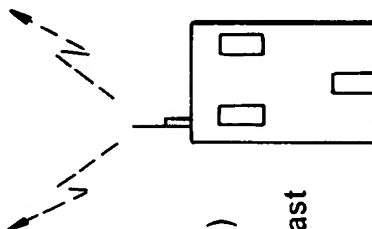
Direct calibration signal injection
For filter/cable calibration only



Near-field probe
For radome/filter/cable
calibration only



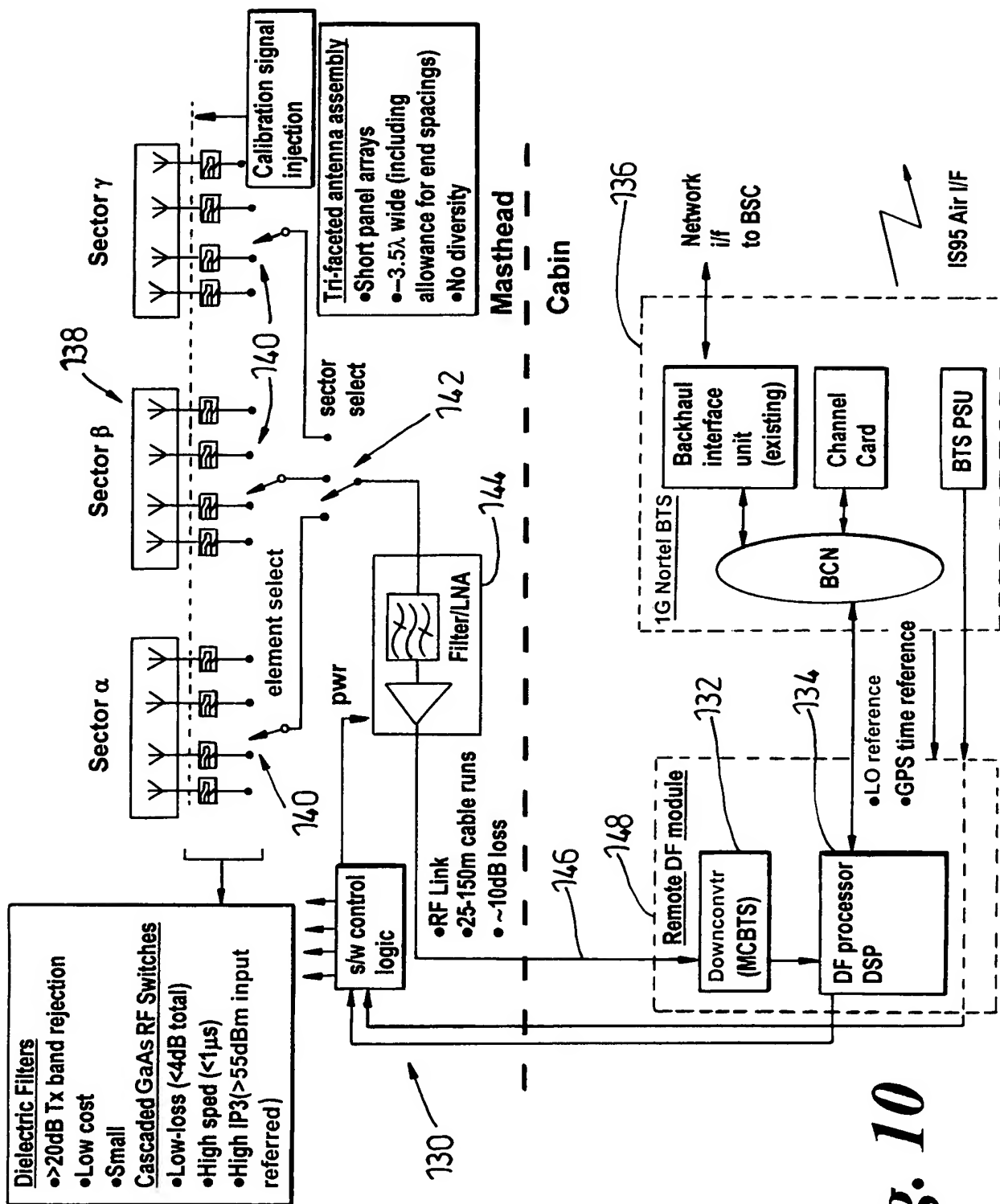
Autonomous Beacon Mobile (ABM)
+23dBm maximum
Mounted on prominent building/mast
For alignment calibration and
radome/filter/cable calibration



Calibration Strategy

- Calibrate alignment of every DF antenna array overnight using CSB or ABM
- Calibrate on-frequency phase errors due to radome/filters/cables using near-field probe direct injection or ABM during or just after E911 emergency call.

Fig. 9



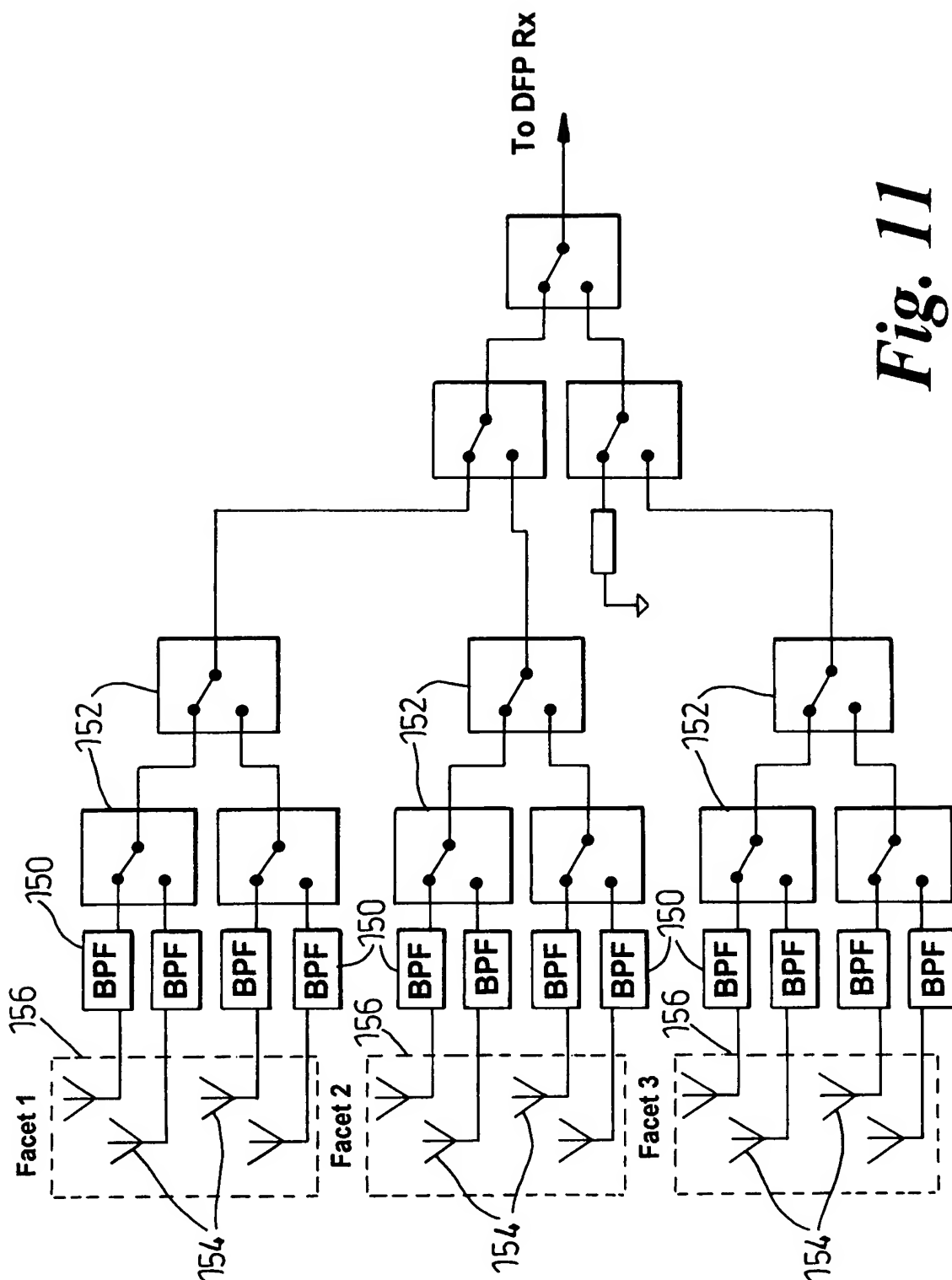


Fig. 11